

12-page section to help make you more familiar
with personal computers.

When will YOU start to use a computer?

If you don't yet use one at work or at home—
in fact, even if you can't imagine yourself
ever operating a computer—you
already *may* use one or more every
day without knowing it. You had
no problems learning how. And
the skills and attitudes you apply
to work *those* computers
actually represent your first
steps toward operating one
of the desk-top computers
you see everywhere now.



IBM®

“You already use computers!”

**That's what Scotty and Gail learned
—to their surprise—when they
had dinner with friends who had
just bought a personal computer.
Read this informative, true-to-life story
in which you might see yourself.**

Almost as soon as Gail and Scotty walked through Mary and Mark's back door, Mark took his old friends by the arm, and led them into the living room.

“Voila!” he said, pointing to what looked like a television set on top of a typewriter. “Our own personal computer! A PC, for short.”

Scotty dropped his jacket on a chair as he walked over and tentatively touched a key. “Whatever inspired you to buy this?”

“Well, I started to use one in my office, and...”

“You? A sales manager?” Scotty interrupted.

Mark explained that his company had begun a study to see where desktop computers might increase productivity—especially in departments that had never used computers before. One of his first projects had produced a schedule increasing his sales calls by 10 percent.

That success—and resulting enthusiasm—had led him, along with his wife, Mary, to experimenting with PC's in a computer store. And they

had talked about how, since they both worked, they could handle their personal finance and tax records and other such chores much faster and better with a PC.

“Then,” Mary said, “our ten-year-old came home just raving about a math game he had played for three solid hours on a computer in school. Mark and I looked at each other... and...well, *there* you see it. And I think we'll see one in your house before long.”

Scotty spun in surprise. “When would *we* use a machine like *this*?”

But his surprise turned to thoughtfulness as Mark pointed out that Gail, who spent two *days* a week doing the books for Scotty's auto-body shop, could do that work in just *hours* with a PC, on which she also could do their household finances and records.

“And don't forget those three fine kids of yours,” Mark added.

It's estimated that in 10-15 years—about the time both families' children would finish school—some 75 percent of all office workers will need

*"When would we
use a machine
like this?"*



How calculators work

the
same
step-
by-step
way
as do
computers.



Pressing numbers gives it data with which to work. The computer term is INPUT.



Pressing a function key tells it what to do with the data. The computer term is PROGRAM.



Pressing the equal key tells the calculator to EXECUTE. And the answer you get, in computer terms, is OUTPUT.



to know about computers.

When Scotty mused that he *still* couldn't visualize himself or Gail using computers, Mark reached over and took a calculator from his friend's shirt pocket.

"Your calculator is a computer," Mark smiled, and went on to describe how, in solving problems, it took the same basic steps as would a PC doing much bigger tasks requiring information and instructions. (See illustration at left.)

"That can't give me a salesman's schedule," Scotty said, indicating the calculator.

But, in saying that, Scotty was confusing *what* a computer can do with *how* it operates. Actually, in *variety* of work and *level* of work, a common calculator can't begin to compare with a sophisticated personal computer.

"But simple as it is," Mark said, "your calculator is a computer, and you operate it."

As Scotty reached to retrieve his calculator, Mark said, "Aha! Another computer used by my friend who does not use computers—he thinks."

"Your multi-function digital watch," Mark explained. The device could tell time in several places on earth; show the day, month and year; it could buzz an alarm; work as a stop watch; and even play the wedding march.

"Gail's gift on our 15th wedding anniversary," Scotty explained. "But what makes you call it a computer?"

"The watch's ability," Mark answered, "to use the same electronic process and the same instrument (the watch) to do different jobs."

"In computer language," Mark said, "those different jobs are called *programs*. And that's where this PC really shines—the so many different ways it can work for us."

Mark held up several flat plastic "jackets," each about five inches square, with what seemed to be small 45 rpm. records inside (called diskettes). "If I put *this* one in *that* slot," he pointed to one of two slots in his PC, "I, who cannot type, can produce an absolutely perfect letter without a misspelling. Or, if one of our boys puts *this* one in, professor PC will teach him Spanish. And *this* one kept the boys home and the whole family entertained last night."

"Gail," Mary asked, "how do you get me on the phone these days?" She knew Gail had just bought a telephone with automated "dialing" of pre-entered numbers.

"**Oh, that new phone,**" Gail enthused. "I just press *one* button with your name on it, listen to the tones and then your phone rings." Thus, Gail uses computers, too.

The particular computer characteristic of her automated "dialing" attachment is the electronic *storage* and *retrieval* of information, which it does essentially the same way as any computer. Much—*very* much simpler—but the same process.

When Gail "set" her telephone numbers, she created patterns of magnetized dots on exceedingly small chips—the pattern of *dots* different for each digit and the sequence of dot *patterns* different for each phone number.

Because the dots stay as set (unless, of course, someone changes them), it's an electronic filing system. Or, in

computer language, *memory*.

Just before the two couples went in to dinner, Mark put the clincher on Gail and Scotty's use of computers:

"You're *really* on your way to computing," he said, "when you work back and forth with the machine. Reading what *it* says on the screen. Saying something *to* it with the keyboard. *And you do that, too!*"

Gail and Scotty looked puzzled.

"**The electronic teller at the bank,**" Mark said. "Gail, I saw you using it last Sunday." And she had indeed "worked back and forth" with the electronic teller, responding to questions and instructions by pressing buttons to "tell" the machine that she wanted \$50 cash.

Scotty stood up. "OK, you've convinced us. We already use computers. But," he glanced at the PC, "...and it's a big BUT."





“But I don’t believe we could ever work this thing?”

That’s the gist of what many people say
...*before* they discover that they already
have mastered some basic skills
and already have the right attitude
to learn how.

When Scotty expressed his “but,” Mark said, “Dinner can wait a few minutes. I think it’s worth the time to assure our friends here that, *one*,” he touched

his forefinger, “they have the native intelligence; *two*, they have already demonstrated some beginner but basic skills; and, *three*, their minds are in the right place.

"Gail... Scotty," he intoned, "you *can* learn to operate a personal computer."

"In how many years?" Scotty laughed.

Mark turned a serious face to his friends. "Look, I'm not saying it's a breeze. These PC's are not toys. They're the most advanced electronic tools available to the public. Some people find it relatively easy; others not so easy. Children generally just sit down and start hitting keys.

"But," Mark continued, "if you really want proof you can do it, look at me, and at millions of others like me—no geniuses—but we learned. Starting from where you are now, and progressing from there to pretty adept users in about, I'd say, the time it takes the average person to learn how to drive and get a license."

Building upon the basic skills already shown by Gail and Scotty, they would have to learn more complex procedures. But what they then could get from computers would be many, many times greater than the additional skills they would need to learn.

"Put a value of '2' on the skills you now have," Mark suggested, "and let '10' stand for the service you now get from computers. When you bring your skills up to '10,' the *work* you can get from a PC shoots up to a value of, maybe, a thousand or more."

"What did you mean by 'our minds in the right place'?" Scotty asked.

The answer: From just the computers he and Gail already use, they accept as normal what people only a few decades ago would have considered sheer magic. Yet, they don't expect a machine to "act" like anything *but* a machine, recognizing that it will do

only what it's prepared by people to do. And it will go ahead and do that even if it's not what was wanted.

To illustrate this balanced attitude of acceptance without awe, Mark pointed out that neither of them looked for "a little man under the hood" when a voice from a car dashboard said something like, "Please fasten your seat belts." They accept machines doing *some* things only people could do before.

But they know that only *people* are responsible for what machines do. If, for example, they absent-mindedly put a car in reverse at a stoplight, then stepped on the gas, they didn't blame the car for the result.

"I *did* that once," Scotty said, "and the other driver blamed *me*. But tell us more about these 'basic skills' you say we have."

"With your calculator," Mark explained, "you demonstrate a basic skill of giving an electronic tool the information with which you want it to work, giving it the instructions it needs—each in the precise order in which the machine can accept them—and then expecting an answer only when you tell it to go to work."

You are the master. The computer is a magnificent system, but one that can take instructions only in certain ways. Giving those instructions as the system can accept them—that's a basic computer skill.

"But," Mark said, "as an example of the great rewards of learning such a skill, as I recall, back in high school, you almost failed trig because you could never understand how to use a slide rule. These days, with your calculator, you solve similar problems routinely. Move up to a

PC, and you'll do, easily and sometimes in a few minutes, what you wouldn't think of undertaking now."

"And what about this watch?"

Scotty asked. "Do I demonstrate computer skill when I press these buttons to get it to do different things?"

"No," Mark answered, "changing a PC program—that's different from pressing a few buttons. What you get from that watch goes back to what I said about your mind being in the right place. To your attitude, what you're comfortable with."

Both couples were too young to remember when people gaped at what was called a "horseless carriage," and were mystified by—not prepared to accept as normal—the fact that the car moved without their seeing a horse pulling it.

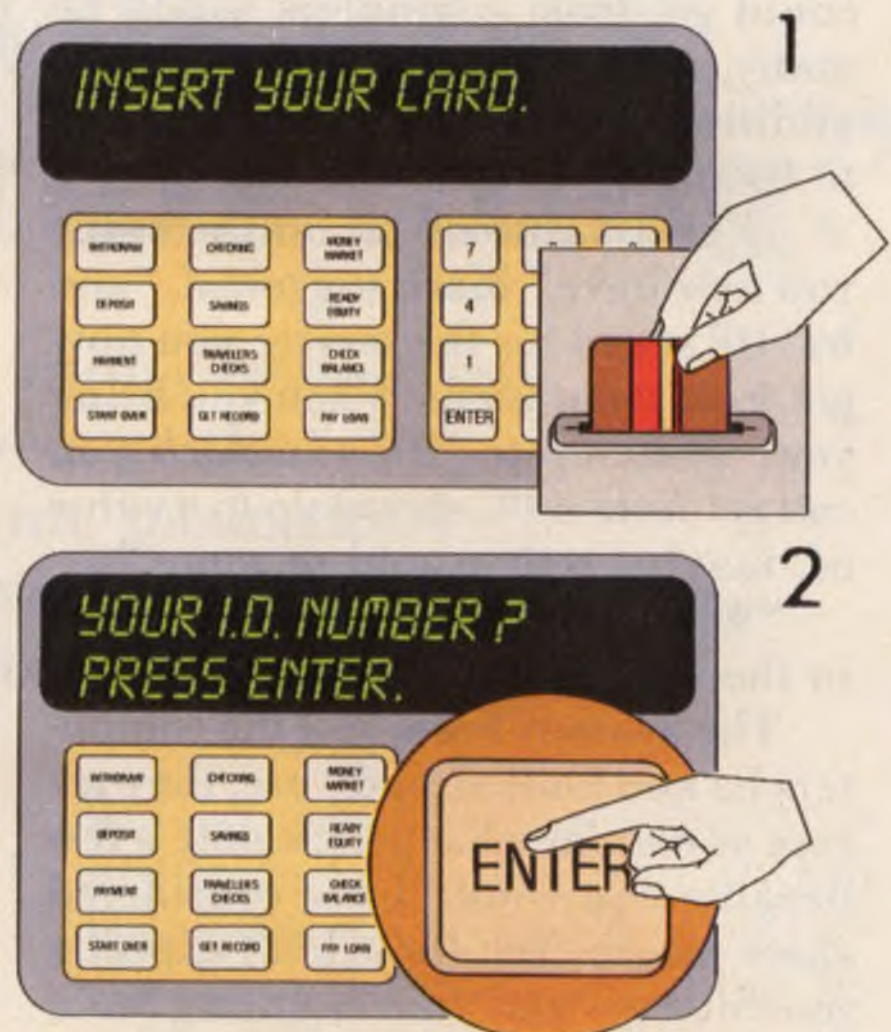
"Add to that mystification," Mark

said, "the fact that those people had never done anything similar to driving a car, and you have a lot of people not yet ready to buy one for themselves." And they wouldn't be until the mystifying "horseless carriage" became the familiar "automobile" to them.

But, because of Scotty's experience with his watch's versatility, he might be amazed and delighted, but not mystified in a computer center when a salesperson showed him a computer set up to work as a fantastic number manipulator. And then, by changing one of the diskettes Mark had exhibited earlier, turned the computer into a "typing teacher." Or got it to make pie charts and graphs. Or prepared the computer to give Scotty different arrangements of chess pieces, and then show him the consequences of any move he made so he could improve his game.

How Gail interacted with the automated bank teller. (Follow the numbers.)

Gail accepted as routine doing what the words on the screen asked her to do (so the machine could serve her). She understood the process of going from the most general (TYPE OF TRANSACTION? = "What can we do for you?") to the specific (TAKE YOUR CASH). In between, she read the words on the screen (computer "talking" to her), and pressed the buttons she chose (she "talking" to the computer). Mentally and in attitude, Gail has entered the computer age, ready to move on to a personal computer.



"You already have experience with a mechanism that can change its function," Mark reminded Scotty. "And *you* have done the changing. So your watch has played a part in preparing you for a PC."

With her automated telephone, Gail had shown she could prepare a computer to receive data, give it the data, and then signal "end of job." To prove it, Mary asked Gail how her number got under the button labeled "Mary."

"I put it there by touching your numbers," Gail answered.

"No, if that's all you did, our phone would have rung. What did you do *before* that?"

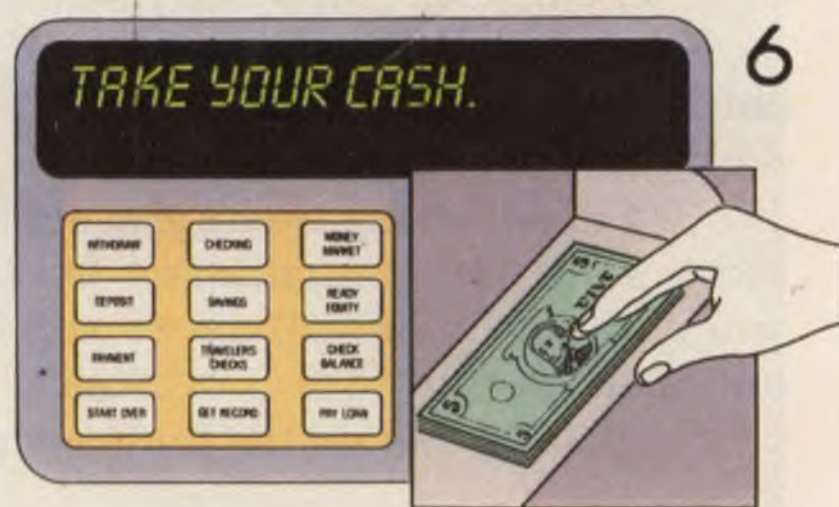
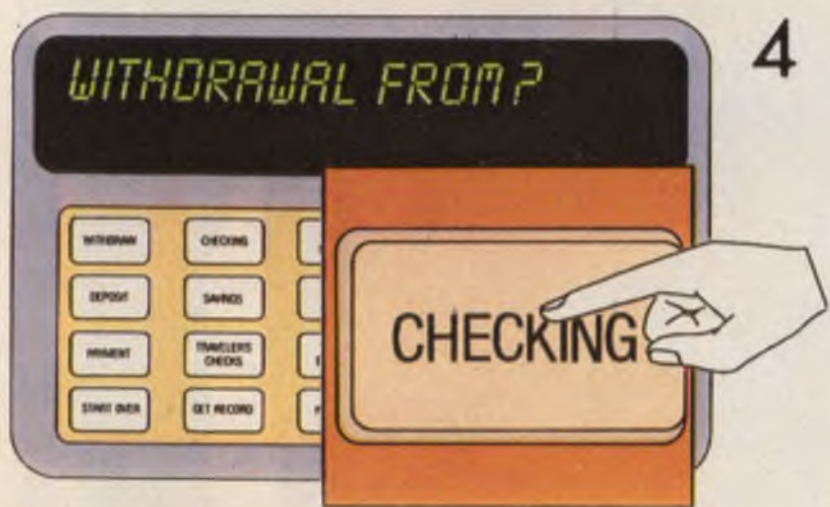
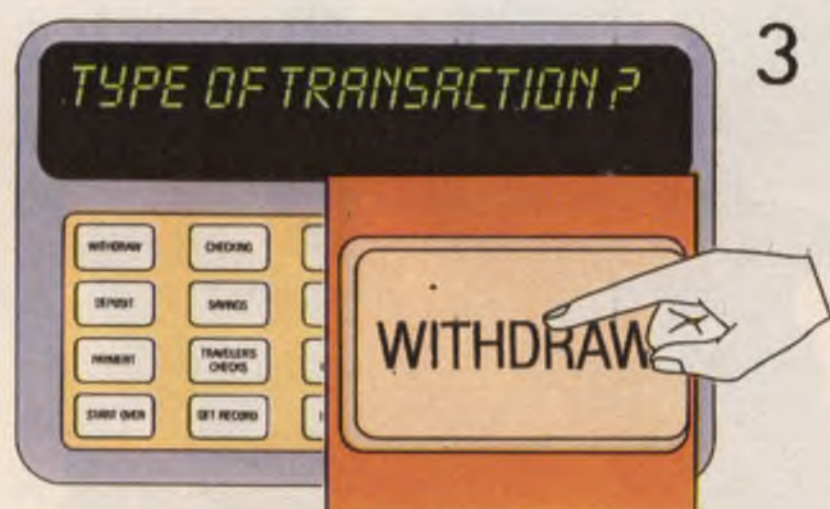
Gail looked to the side, thinking. "Oh, yes," she said, turning back to Mary. "I remember. The instructions said to touch some *other* numbers first. Then I pressed your numbers.

And, after that, I touched the tic-tac-toe symbol to put my phone back in normal working order."

"So," Mary summarized, "you *prepared* the machine to receive some input, you *entered* the numbers, then signaled that you were *finished*. Those are basically the same steps as giving data to *any* computer.

"When you used the bank machine," Mary continued to Gail, "you employed what they call a terminal connected to a larger computer in the bank or someplace else, but don't let that confuse you now."

For her confidence about using a PC someday, the important fact for Gail to remember is that she knows how to get efficient service from a machine by using a computer's logical-step-by-logical-step interactive system. (See illustration and explanation below.)



“You really think we could handle a PC?”

That's what Scotty and Gail asked after learning that they already use many computers... and had some very compelling reasons to consider a step that could enrich their lives.

Mary took on the answer. “As Mark said, it's not something you simply plug in and start using.” But if they did some reading and practiced—maybe with one of the self-teaching diskettes—she didn't see why they couldn't do it. They certainly had passed what Mary called their “aptitude tests.”

“Did I tell you Gail and I can't type?” Scotty asked.

“You heard Mark say he can't, either. He hunts and pecks...and sometimes works the computer faster than I can, and I *do* type.”

Scotty looked at Gail with a “nothing left to ask” expression. “What do you say we go poke around the computer center Saturday morning? Just out of curiosity.”

“I'm curious,” Gail admitted.

Mary and Mark enthusiastically encouraged them to “go experiment with the computers there.”

“We're not trying to sell you one,” Mark said. “It's just that we *know* you and your kids will get so much out of it.”

“You say I can do the body-shop



books and billing in less than a day?" Gail asked.

Not only that, she was reassured, but also the six-man payroll, and, in not much more time, also their personal household money work. And, something few people think of *before* they get PC's, some wonderful charity and community work.

"I put all the financial records of the volunteer fire department on our PC," Mark said. "Now we get perfect treasurer's reports every meeting—everything we own, with its value as of *this* week."

The conversation started to get a bandwagon feeling. "I read that they use computers to design cars," Scotty ventured. "Could a PC tell me how to restore those wrecks I get?"

"Hold up," Mark laughed. "You and that crew of yours do artistic, creative hand work. That's one of the few ways a PC can't help you."

But it can, Scotty would learn, make quick, accurate estimates for jobs needing many parts and a great deal of specialized labor.

"If I loved the PC for no other reason," Mark said, "it would be that it does my tedious business homework—like expense accounts—so fast and easily, I get it done on time."

"And you say it helps the children?" Gail asked. She was told that a personal computer and the right programs can make learning easier and faster. In part, because a computer is a patient teacher that fascinates youngsters. Some innovative programs encourage students to reach *above* their class level.

"We can't keep our sons away from it," Mary said. "Not that we want to." That is one screen to which Mary loves to see her children glued.

QUIZ: All true, except TWO

Below, can you find the only two services a personal computer *cannot* do for you? (This just samples all the things it *can* do—an already long list that grows longer literally every day.) Mark T or F; then turn page.

1. ☐ Save you money.
2. ☐ Pay bills for you.
3. ☐ Help keep you fit.
4. ☐ Repair your car.
5. ☐ Speed a bank loan.
6. ☐ Help you get into a college.
7. ☐ Relieve loneliness.
8. ☐ Diagnose illness.
9. ☐ "House-sit" for you.
10. ☐ Help you pick the right dog.
11. ☐ Check your spelling.
12. ☐ Teach you to type.
13. ☐ Let you shop from home.
14. ☐ Earn you tax deductions.

(Answers: Next page.)

QUIZ ANSWERS:

Did you find the two *not* true?

1. ☒ **T** Many personal computer programs help analyze where your money goes, and tell how and where you might save. One, for example, shows what every electric appliance and light costs you—so you can have statistical support when you say, “Please turn off that light.”
2. ☒ **T** Banks have introduced electronic programs that permit you to do much of your banking—including paying bills—conveniently right from home on your own personal computer.
3. ☒ **T** Personal computer programs can monitor your diet, advise on calories and menus, on which exercises *you* should do, and for how long.
4. ☐ **F** Computer programs can help you determine what might be wrong, but it takes human minds and hands to find and use the best way—especially if it’s an unusual way—to fix it.
5. ☒ **T** How many times have you filled out a net-worth statement? With a PC, you can pull a fresh, up-to-date one in minutes. (And, at the bank, computers there speed up the processing of loans.)
6. ☒ **T** A PC can help prepare students for SAT’s, and some schools have made or will soon make access to a personal computer an entrance requirement.
7. ☒ **T** One of the fastest-growing uses of personal computers. Through “chat” networks and “electronic bulletin boards,” computer users “talk” to each other, reach out and make new friends.
8. ☐ **F** Personal computers in doctors’ offices can provide probable causes of symptoms. But final diagnosis requires an M.D. As with #4 above, computers aid, but do not replace, human judgment.
9. ☒ **T** Computers can be connected to other monitoring devices to switch calls to neighbors, call police or fire—or furnace repair—control heat, turn lights on and off.
10. ☒ **T** A psychologist has developed a program to match the temperaments, sizes, etc., of 120 breeds with your own personality, your desires and needs.
11. ☒ **T** Some word processing programs contain dictionaries, and will correct a misspelling not only where you found it, but also wherever else the word (or name) appears in what you’ve written.
12. ☒ **T** By following drills on your screen, you can learn to touch-type on your own keyboard. And that’s only one of many, many courses you can take by personal computer.
13. ☒ **T** Several major retailers, and other companies such as stockbrokers, for example, either have or are testing systems with which you can view on your screen, and order on your keyboard.
14. ☒ **T** CPA’s say that people who use their computers to some significant and provable degree for business work can depreciate a portion of the original cost of the machine.

If you would like to learn more about IBM personal computers, just call 1-800-447-4700 for the address of an authorized dealer or IBM Product Center nearest you. (In Hawaii & Alaska, call 1-800-447-0890.)

